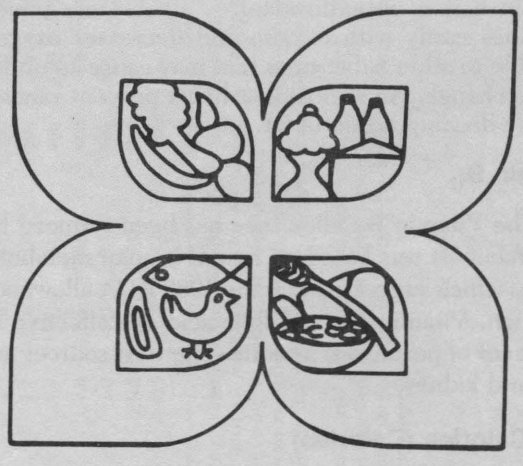
re 9-28-76 20M

FACT SHEET

L-1452

REVISED RECOMMENDED DIETARY ALLOWANCES

Mary K. Sweeten*



The Recommended Dietary Allowance, commonly known as the RDA, is a nutrition standard set forth by the Food and Nutrition Board, National Academy of Sciences, National Research Council. This guide was designed to safeguard the health of the entire United States population living in a moderate climate. Every four to six years this board of nutritionists meets to revise the Recommended Dietary Allowance.

RDA Revision

The 1973-74 Recommended Dietary Allowances included several important changes over the 1968 RDA. There are 17 age-sex classes, compared to the 26 previously. Separate classes are included for pregnant and lactating women. This new age grouping was an attempt to better meet the needs of various ages.

The revisions in nutrient standards do not differ greatly from the 1968 RDA. The mineral zinc has been added. The allowances for protein, Vitamin C, Vitamin E and Vitamin B_{12} were decreased. Minor changes in the calorie and Vitamin A allowances were made.

Zinc

The allowance for mineral zinc has been added to the 1974 RDA table in the amount of 15 milligrams (mg.) for adults. About 5 mg. additional zinc is recommended during pregnancy and an additional 10 mg. during lactation. Zinc was added because evidence has shown that low zinc intakes in the United States, as seen in the low zinc content of hair, has led to loss of taste and smelling sharpness in children. Numerous enzyme systems in animal experiments suggest a human need for zinc.

Protein

The adult protein allowance was reduced from 0.9 to 0.8 gram per kilogram of body weight per day. Men require 56 grams of protein and women 46 grams of protein per day. Pregnant women require an additional 30 grams of protein daily — an increase of 20 grams over the 1968 requirement. The Board assumed that the mixed protein diets in the United States were about 75 percent high quality protein. Protein is necessary for building and repairing all body tissues.

Vitamin C

The standard level of ascorbic acid, commonly referred to as Vitamin C, was reduced from 60 mg. to 45 mg. per day, a 25 percent decrease. This resulted from research that revealed that healthy people utilized about 30 mg. of ascorbic acid daily. Thus 45 mg. would provide enough Vitamin C daily. Excessive intake of Vitamin C is not recommended unless under the direction of a physician.

Vitamin E

The allowance for Vitamin E has been reduced for adults by 50 percent — from 30 mg. to 15 mg. per

*Extension foods and nutrition specialist, The Texas A&M University System.

Texas Agricultural Extension Service • The Texas A&M University System • Daniel C. Pfannstiel, Director • College Station

day. It is known that the Vitamin E requirement increases with the increased consumption of polyunsaturated fat. However, most polyunsaturated fatty acid sources are also good sources of Vitamin E. Vitamin E allowances are given in "Vitamin E activity" because other substances besides Vitamin E contribute to its function in diets. The main function of Vitamin E is as an antioxidant — a substance which combines easily with oxygen and decreases oxygen available to other substances that may cause an undesirable change. An antioxidant helps prevent rancidity, the decomposition of fat.

Vitamin B_{12}

The Vitamin B_{12} allowance has been reduced by 40 percent. It was based on recent human metabolic studies which suggested that the 1968 RDA allowance was high. Vitamin B_{12} and folic acid are effective in treatment of pernicious anemia. The best sources are liver and kidney.

Kilo-Calories (Calories)

The new wider age-sex grouping makes the changes in energy seem larger than they really are. The energy allowances have been considered to meet the average needs of typical Americans engaged in sedentary activity. Energy is expressed in kilocalories (calories). There are small increases in energy levels for children and young adolescents. Small decreases are given for young adult women and older adolescents. Calories are increased during pregnancy and lactation.

Vitamin A

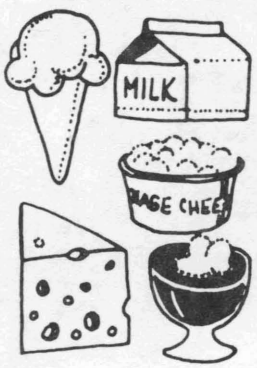
The Vitamin A requirement was reduced from 5,000 I.U. to 4,000 I.U. for adult females. This reduction is based on the fact that adult females have a 20 percent lower body weight in comparison to adult males. Vitamin A allowances are given in International Units (I.U.) and Retinol Equivalents (R.E.). These are both units of measurement to express Vitamin A activity. The conversion factor is given in the eighth edition of RDA. Vitamin A is essential in prevention of night blindness and to keep the body mucus membranes healthy.

Meal Planning

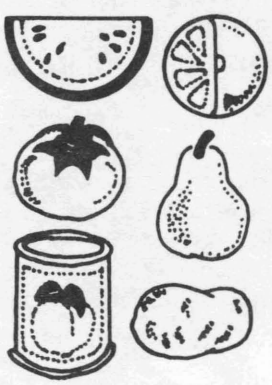
For the RDA to be meaningful, it must be translated into food groups. Insure that you obtain the Recommended Dietary Allowances each day by eating the recommended foods from the Daily Food Guide.

The Daily Food Guide recommends that adults eat two servings from the Meat Group and Milk Group daily and four or more servings from the Fruit and Vegetable and Bread and Cereal Groups daily.

Meat Group



Milk Group



Fruit and Vegetable Group

Bread and Cereal Group

FOOD AND NUTRITION BOARD, NATIONAL ACADEMY OF SCIENCES–NATIONAL RESEARCH COUNCIL
RECOMMENDED DAILY DIETARY ALLOWANCES,[a] Revised 1974

Designed for the maintenance of good nutrition of practically all healthy people in the U.S.A.

	Age	Weight		Height		Energy	Protein	Fat-Soluble Vitamins				Water-Soluble Vitamins							Minerals					
								Vitamin A Activity		Vitamin D	Vitamin E Activity[e]	Ascorbic Acid	Folacin[f]	Niacin[g]	Riboflavin	Thiamin	Vitamin B_6	Vitamin B_{12}	Calcium	Phosphorus	Iodine	Iron	Magnesium	Zinc
	(years)	(kg)	(lbs)	(cm)	(in)	(kcal)[b]	(g)	(RE)[c]	(IU)	(IU)	(IU)	(mg)	(μg)	(mg)	(mg)	(mg)	(mg)	(μg)	(mg)	(mg)	(μg)	(mg)	(mg)	(mg)
Infants	0.0–0.5	6	14	60	24	kg × 117	kg × 2.2	420[d]	1,400	400	4	35	50	5	0.4	0.3	0.3	0.3	360	240	35	10	60	3
	0.5–1.0	9	20	71	28	kg × 108	kg × 2.0	400	2,000	400	5	35	50	8	0.6	0.5	0.4	0.3	540	400	45	15	70	5
Children	1–3	13	28	86	34	1,300	23	400	2,000	400	7	40	100	9	0.8	0.7	0.6	1.0	800	800	60	15	150	10
	4–6	20	44	110	44	1,800	30	500	2,500	400	9	40	200	12	1.1	0.9	0.9	1.5	800	800	80	10	200	10
	7–10	30	66	135	54	2,400	36	700	3,300	400	10	40	300	16	1.2	1.2	1.2	2.0	800	800	110	10	250	10
Males	11–14	44	97	158	63	2,800	44	1,000	5,000	400	12	45	400	18	1.5	1.4	1.6	3.0	1,200	1,200	130	18	350	15
	15–18	61	134	172	69	3,000	54	1,000	5,000	400	15	45	400	20	1.8	1.5	2.0	3.0	1,200	1,200	150	18	400	15
	19–22	67	147	172	69	3,000	54	1,000	5,000	400	15	45	400	20	1.8	1.5	2.0	3.0	800	800	140	10	350	15
	23–50	70	154	172	69	2,700	56	1,000	5,000		15	45	400	18	1.6	1.4	2.0	3.0	800	800	130	10	350	15
	51+	70	154	172	69	2,400	56	1,000	5,000		15	45	400	16	1.5	1.2	2.0	3.0	800	800	110	10	350	15
Females	11–14	44	97	155	62	2,400	44	800	4,000	400	12	45	400	16	1.3	1.2	1.6	3.0	1,200	1,200	115	18	300	15
	15–18	54	119	162	65	2,100	48	800	4,000	400	12	45	400	14	1.4	1.1	2.0	3.0	1,200	1,200	115	18	300	15
	19–22	58	128	162	65	2,100	46	800	4,000	400	12	45	400	14	1.4	1.1	2.0	3.0	800	800	100	18	300	15
	23–50	58	128	162	65	2,000	46	800	4,000		12	45	400	13	1.2	1.0	2.0	3.0	800	800	100	18	300	15
	51+	58	128	162	65	1,800	46	800	4,000		12	45	400	12	1.1	1.0	2.0	3.0	800	800	80	10	300	15
Pregnant						+300	+30	1,000	5,000	400	15	60	800	+2	+0.3	+0.3	2.5	4.0	1,200	1,200	125	18+[h]	450	20
Lactating						+500	+20	1,200	6,000	400	15	80	600	+4	+0.5	+0.3	2.5	4.0	1,200	1,200	150	18	450	25

[a] The allowances are intended to provide for individual variations among most normal persons as they live in the United States under usual environmental stresses. Diets should be based on a variety of common foods in order to provide other nutrients for which human requirements have been less well defined. See text for more detailed discussion of allowances and of nutrients not tabulated. See Table I (p. 6) for weights and heights by individual year of age.

[b] Kilojoules (kJ) = 4.2 × kcal.

[c] Retinol equivalents.

[d] Assumed to be all as retinol in milk during the first six months of life. All subsequent intakes are assumed to be half as retinol and half as β-carotene when calculated from international units. As retinol equivalents, three fourths are as retinol and one fourth as β-carotene.

[e] Total vitamin E activity, estimated to be 80 percent as α-tocopherol and 20 percent other tocopherols. See text for variation in allowances.

[f] The folacin allowances refer to dietary sources as determined by *Lactobacillus casei* assay. Pure forms of folacin may be effective in doses less than one fourth of the recommended dietary allowance.

[g] Although allowances are expressed as niacin, it is recognized that on the average 1 mg of niacin is derived from each 60 mg of dietary tryptophan.

[h] This increased requirement cannot be met by ordinary diets; therefore, the use of supplemental iron is recommended.

References

1. Harper, Alfred E., "The Recommended Dietary Allowances," Nutrition News, April 1974, Vol. 37, No. 2.
2. Johnson, Paul E., "Recommended Dietary Allowances," Food and Nutrition News, December-January 1973-74, Vol. 45, No. 2.
3. "Recommended Dietary Allowances," Revised 1974, Dairy Council Digest, May-June 1974, Vol. 45, No. 3.

Appreciation is given to Frances Reasonover, Sally Coble and Marilyn Haggard, foods and nutrition specialists in preparation of this Fact Sheet.

The RDA chart used in this publication was reproduced by the foods and nutrition specialists of the Texas Agricultural Extension Service, June 1974.

Cooperative Extension Work in Agriculture and Home Economics, The Texas A&M University System and the United States Department of Agriculture cooperating. Distributed in furtherance of the Acts of Congress of May 8, 1914, as amended, and June 30, 1914.
20M — 7-76 F&N 5